

REMARKS

Favorable reconsideration of this application, as presently amended, is respectfully requested.

Claims 6-10, 14, 15, 19 and 39-45 are now active in this application, Claims 6, 7, 14, 15 and 19 having been amended by the present supplemental amendment.

Claims 6 and 15 have been amended to basically change "titanium and zirconium" to "titania and zirconia". Amended Claims 6, 7, 14, 15 and 19 are fully supported by the specification, drawings and claims as originally filed.¹ Applicants therefore submit that no new matter has been introduced.

Claim 6 is directed to a wet-oxidation treatment apparatus for treating waste water. For example, referring to the non-limiting embodiment of Fig. 1, the apparatus includes a liquid inlet, a liquid outlet, a packed bed 18 of a solid catalyst and/or a solid adsorbent, and a water-permeable pressure layer 17. The packed bed 18 is provided in the apparatus. The liquid inlet is provided in the apparatus below the packed bed 18 and connected to a source of the waste water. The liquid outlet is provided in the apparatus above the packed bed 18. Treated waste water is discharged from the apparatus through the liquid outlet. The water-permeable pressure layer 17 is provided on an upper surface of the packed bed 18 and has a load enough to suppress a movement of the solid catalyst and/or the solid adsorbent. The water-permeable pressure layer 17 is deformable according to a deformation of the upper surface of the packed bed 18. The water-permeable pressure layer 17 is a substance having a plurality of rigid particles selected from the group consisting of stainless steel, titania and zirconia.

As discussed in the response filed June 25, 2003, neither WO 96/13463 nor Gentry teaches that the water-permeable pressure layer has a load enough to suppress a movement of

¹For example, the specification, page 24, line 16, and page 75, line 4 from the bottom.

the solid catalyst and/or the solid adsorbent. Further, neither WO 96/13463 nor Gentry teaches that a water-permeable pressure layer is a substance having a plurality of rigid particles selected from the group consisting of stainless steel, titania and zirconia. Accordingly, even if the teachings of WO 96/13463 and Gentry are combined, the combined teachings of these references would not in any way obviate the invention recited in Claim 6.

None of the applied references including the Gentry reference provides the motivation to modify the WO 96/13463 reference so as to arrive at Applicants' claimed invention.² In rejecting a claim under 35 U.S.C. §103(a), the USPTO must support its rejection by "substantial evidence" within the record.³ There is no substantial evidence within the record of motivation for modifying the WO 96/13463 references so as to obtain Applicants' claimed invention. As described above, in the Gentry apparatus, the abrasion of the solid catalyst by the flow of the waste water is not a problem, and so the Gentry apparatus does not require the water-permeable pressure layer which has a load enough to suppress a movement of the solid catalyst and/or the solid adsorbent. Therefore, a person of ordinary skill in the art would not have been motivated and would not have found it obvious to perform such modification, and Claim 6 is believed to be non-obvious and patentable over the applied prior art. Consequently, Claim 6 is believed to be allowable.

² See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

³ In re Gartside, 203 F3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000) (holding that, consistent with the Administrative Procedure Act at 5 USC 706(e), the CAFC reviews the Board's decisions based on factfindings, such as 35 U.S.C. §103(a) rejections, using the 'substantial evidence' standard because these decisions are confined to the factual record compiled by the Board.)

Claim 15 is directed to a wet-oxidation treatment apparatus for treating waste water.

For example, referring to the non-limiting embodiment of Fig. 1, the apparatus includes a liquid inlet, a liquid outlet, a packed bed 18 of a solid catalyst and/or the solid adsorbent, and a layer 23. The packed bed 18 is provided in the apparatus. The liquid inlet is provided in the apparatus below the packed bed 18 and connected to a source of the waste water. The liquid outlet is provided in the apparatus above the packed bed 18. Treated waste water is discharged from the apparatus through the liquid outlet. The layer 23 is provided under the packed bed 18 and above the liquid inlet. The layer 23 is configured to disperse an upward stream of the waste water and/or a waste gas introduced through the liquid inlet into the apparatus. The layer 23 is a substance having a plurality of rigid particles selected from the group consisting of stainless steel, titania and zirconia.

Neither WO 96/13463 nor Gentry teaches that a layer is a substance having a plurality of rigid particles selected from the group consisting of stainless steel, titania and zirconia. Accordingly, even if the teachings of WO 96/13463 and Gentry are combined, the combined teachings of these references would not in any way obviate the invention recited in Claim 15.

Gentry, referring to Fig. 2, discloses a vapor/liquid contact tower, which is different from a wet-oxidation treatment apparatus. In the Gentry apparatus, the waste water is supplied to the top portion of the apparatus and discharged from the bottom portion of the apparatus (see Figs. 1-5). Accordingly, the waste water flows downwardly in the catalyst 102 by the gravity. Namely, the waste water gradually permeates the catalyst 102. Therefore, the solid catalyst particles do not move and vibrate in the packed bed by the flow of the waste water. Thus, abrasion of the solid catalyst does not occur due to the flow of the waste water and, as a result, a dent is not created on the upper surface of the catalyst 102. Hence, the Gentry apparatus does not require the layer which is configured to disperse an upward stream of the waste water and/or a waste gas introduced through the liquid inlet into the apparatus.

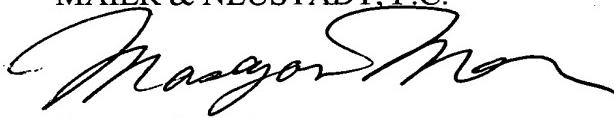
Accordingly, none of the applied references including the Gentry reference provides the motivation to modify the WO 96/13463 reference so as to arrive at Applicants' claimed invention. Therefore, a person of ordinary skill in the art would not have been motivated and would not have found it obvious to perform such modification, and Claim 15 is believed to be non-obvious and patentable over the applied prior art. Consequently, Claim 15 is believed to be allowable.

Substantially the same arguments as set forth above with regard to Claim 6 also apply to dependent Claims 7-10, 14, 19 and 39-42. Accordingly, each dependent claim is also believed to be allowable.

Consequently, in view of the present amendment, it is respectfully submitted that this application is in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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